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PROPOSITIONS ON THE NERVOUS SYSTEM, AND ON THE FORMATION OF ANIMALS.

To the Ed. of the Med. and Surg. Journ.

SIR,—I am induced to send you the annexed propositions in physiology, from having observed the following question in a southern paper, copied from the New York Star, which I shall quote entire. The question has been already answered in your Journal of the 20th of September, in an article under the head of Animal Magnetism. Proceeding on the supposition that there was an elastic fluid pervading all space, on the motions and undulations of which, among the particles of matter, depend all material phenomena, vital as well as chemical and mechanical, that article reconciles the facts of animal magnetism with the operations of natural laws. Allusion was also made in it to sympathy, fascination, irritation and embryotic influences, and the forms of organized bodies, as susceptible of a better explanation by this than any other hypothesis. These propositions may be regarded as a continuation and more definite exposition of the same views. The facts which I am able to bring forward in support of them warrant my urging them upon the attention of physicians and other scientific men, as containing the germ of a discovery of greater importance to the interests of mankind than any which has been made since that of the circulation of the blood. BENJAMIN HASKELL, M. D.

Boston, Oct. 16th, 1837.

'*Philosophical Problem.*—Why has Nature not produced any square forms?

'Nature has produced circular, curvilinear and polyangular forms, in endless variety, but not one square form.

'The public prints throughout the United States and in Europe, are respectfully requested to publish the above question, a correct answer to which will embrace the discovery of an universal law of nature, which has been lost to philosophy for several thousand years.'

1. The true method of arriving at the knowledge of the nature and use of the nervous system, is to presuppose a fluid to exist in organized matter, which, undulating and moving in currents, disposes the nervous molecules in the manner in which the nervous tissue exhibits them.

2. The currents of this fluid *commence* on the superfices of bodies, and take a centripetal direction. They are first set in motion by the impression of agents without, on the sensitive surfaces; and the developement of animals, from the circumference to the centre, according to the law of Serres, well known by the term Lex Serrenia, is a complete illustration of this position.

3. The ganglions on the posterior nervous chords of the spinal marrow were *originally* the points of stasis or dispersion of the fluid moving towards the centre, their centripetal force being there counteracted by the opposing force of fluid at rest or moving in contrary directions. By supposing a fluid to move in this way through the nervous corpuscles of the polypus, its first effect would be to form the single isolated nerve and ganglion of the molluscous animal.

4. The nervous chords intervening between the ganglions and spinal marrow, may be regarded as the appendices of the spinal marrow. They were formed by the projection of a fluid from the ganglion towards the spinal column, in consequence of the attraction produced by a current passing longitudinally upward, or downward, or both, along the spinal canal, the union of these several currents forming the spinal marrow itself; one tendency to the formation of these longitudinal currents arising from the meeting of the fluid of the opposite ganglions in the centre.

5. The anterior chord had its origin in the reverse or after-current, that passing from the spinal marrow towards the surface transmitting the stimulus of volition, and may also be considered as an appanage of the spinal marrow. This current must join the nerve anterior to the ganglion, to correspond with the law of Ampere, that two currents moving in the same direction attract each other; the other current moving from the ganglion towards the circumference.

6. There exist two circles through which the nervous influence passes, viz. one, where sensation and volition are unnoticed; the other, where they both take place. The former, commencing at the external surface, is reflected back at the ganglion; the latter, commencing at the same place, is reflected back from the cerebro-spinal apparatus.

8. The cerebrum and cerebellum are but the greater developement of the circles of which a single nerve affords the type. The corpora striata and optic beds, containing gray matter, and the corpus dentatum, were, like the ganglions, the points of stasis and accumulation of the fluid passing up the cerebro-spinal cavity, from whence, as its intensity increased, simultaneously with the elevation of the animal in the scale of intellectual life, it proceeded forward and formed the convolutions, the gray matter of which corresponds to the gray matter of the spinal marrow, and the diverging and converging fibres of Spurzheim and Gall correspond to the anterior and posterior chords.

8. The cause of variety in the manifestation of function in the several nerves depends on a principle closely analogous to that by which different crystals exhibit different forms and colors when subjected to the influence of polarized light, and may lead, at some future day, to the discovery of the intricate structure of the nervous expansions, as the phenomena of polarization has led to the discovery of the composition of crystals in the disposition of the atoms which form them; the motions of the fluid among the nervous corpuscles both affecting, and being affected by, the disposition of the corpuscles.

9. The analogy to this mode of formation of the nervous system is found in the gradual formation of brooks, creeks, and rivers, by water on the surface of the earth. The water penetrates the soil everywhere, and everywhere is seen to form grooves, which afterwards help to confine it in its course, and impress upon its currents modifications, which, within certain limits, are fixed and constant. So the nervous fluid penetrates the whole body, and is everywhere active, like the blood. But by the various tendencies to move in different directions which it receives from the motions of the elastic fluid without, or 'stimuli,' combined with that play of its motions within which constitutes life, it must form to itself channels, which enable it to concentrate itself and pass with celerity from one part of the body to another. These channels are the nervous chords.

10. The reason that animals and vegetables have rounded forms, and minerals angular, is this:—in the former exists a motion compounded of the principle of life and of that which accomplishes crystallization. To effect crystallization, perfect rest of the fluid medium in which it takes place, is necessary. In animation a moving force commences at the punctum saliens, or in consequence of an external impression, and is always interfering with the crystallizing force, in the manner that rays of light interfere, producing curvilinears, and are explained by M. Fresnel on the theory of light depending on the undulations of ether. It is owing to the same cause that drops of water have a circular form, and the waves of the sea are rounded by the undulations of the atmosphere.

11. The simplest mode of undulation is exhibited in the formation of the circular and radiated animals. Their form is described by the circular wave made by dropping a pebble perpendicularly on the surface of a fluid, and by the radiation of light.

12. The second simplest mode is exhibited by the spiral animals, or sea snails. In these a perpendicular motion occurs along with the horizontal. Its analogy is found in electro-magnetism, in that appearance of polarized light made to pass through quartz, which Mr. Herschel has compared to a corkscrew, and still more plainly by the little whirlpools so often seen in the eddies of a running stream. It seems impossible for a theory to be false, and explain the formation of these simple animals as this does. The probabilities in its favor are infinite.

13. The fluid accumulates internally, and by its attractive force, as it expands and endeavors to fly off in all directions, exerts a pressure on the body from within, outwards, and occasions it to grow to a certain point. This point is attained when it has acquired such an extent of surface, that an equilibrium is established between its intensity and the inertia of matter; as when the atmosphere reaches the height of 45 miles, the elasticity of air is counterbalanced by the weight of the particles of air. The analogy for the accumulation of the fluid by the motions of the particles among each other, is found in the excitement of electricity by friction; and that for the diminution of its intensity by the increase of surface, is found in the inverse proportion of the intensity of electricity and the extent of surface of the

prime conductor. Hair, bristles, spines, scales, &c., are formed by the fluid passing off from the superfices of bodies, and hence the reason why they are found most abundantly over those parts of the body where the fluid is directed in the greatest quantities, as over the brain in man, and diffused over the body in animals. The black color of the negro is the slightest degree of the same effect. The blowing of a soap-bubble, which expands between two pressures of the same medium, the ordinary pressure of the atmosphere without, and the constantly accumulating pressure within, is a simple and almost perfect illustration of the expansion and rounded form of all organized beings.

14. The reason why the fœtus is expelled from the uterus at nine months, is, that all its organs being then developed, it cannot receive from the mother the same amount of fluid it has been in the habit of receiving, and which the system of the mother has been habituated to yield to it. The fluid then accumulating in the mother will be most naturally directed towards the nearest focus of irritation, which is the uterus, and will produce muscular contractions of that organ. The next transition will be to the breasts, when the uterus, being disgorged of its contents, can receive no more of it.

15. We can also form a conception of the preservation of the type of every species of animals, from generation to generation. For we suppose this fluid to be the cause of light, as well as electricity, &c.; and on the same principle that it forms images by its vibrations in reflection and refraction (which images are the exact portraits of the originals, both in form and color,) those same vibrations acting on matter so mobile as that which constitutes the embryo in its earliest stages, and the image of both parents being the ones most constantly impressed upon it in consequence of its long continuance within the body of each, the type of the race, and, to some extent, of the individual, will be reproduced forever. Hence, too, the form of each of the bodily organs.

16. The explanation of the physiological experiments of Magendie, in which forward motion is produced by destroying the crura of the cerebrum, backward by destroying the crura of the cerebellum, rotatory by destroying the crura of either side, &c., depending on the law of equilibrium of fluids, will account, also, for the erect attitude of man.

17. The ciliary motions lately discovered in animals, by Purkinje, Mayer, and others, and the undulatory movements lately noticed by the celebrated botanist, Brown, of organized molecules in fluid matter, depend on the vibration of this fluid, as do light, heat, electricity, magnetism, and gravitation.

18. It is well known that the vibrations of a musical instrument will, if continued a length of time, throw another, at a distance from it, into the same series of vibrations, and elicit the same sounds, provided it harmonizes with it. Assuming that these vibrations depend on the ether present in the atmosphere and in all bodies, which gives them elasticity, this phenomenon must be owing to the tendency that this fluid has, when undulating, to provoke the same undulations through all its extent. Now supposing this fluid to exist among organic molecules, free and mobile as they are found in the polypus, it cannot undulate in a given way among these molecules without disposing them in a certain manner, *and the manner in which it disposes them will be that which renders them least liable to interfere with that particular mode of undulation.* It is on this principle that the ear is formed, with a spiral cochlea, semicircular canals, &c. In like manner that variety of undulation which causes light, is sufficient to form the eye out of polypous matter. The cause of the eye existing in one spot, instead of being spread over the whole body, as well as its being rounded, instead of angular like a crystal, is the interference of other vibratory motions, as that which constitutes life, together with those made by other external impressions, which modify it at the edges where they meet that particular class of vibrations engaged in forming it. What is true of the formation of one organ, is true of that of all the rest. The support which this proposition derives from the slow and gradual evolution and perfection of these organs, from the inferior animals up to man, is in the highest degree astonishing.

For the Journal of Health and Longevity.

IMPROPER MIXTURES IN THE PREPARATION OF FOOD.

I happened lately to be in the kitchen of a friend who keeps a boarding house, on their 'baking-day;' and as I am something of a Betty, I took some pains to observe the various culinary operations which were on the docket. I could not help particularly noticing the process of making *pie-crust.* It was mixed with water and a filthy looking substance called *lard*, vulgarly *hog's* fat, which appeared to be, and I presume was, the drippings which from time to time were saved here and there and thrown into the 'shortening pot.' I could not help thinking what a villainous 'compound' it was, but as I have long since come to the conclusion not to intrude my Grahamic notions upon others, unless they introduce the subject, I said nothing about it. Soon after, an opportunity presenting itself while in conversation with the housewife,

I asked her, 'what do you think your boarders would say if you should make that flour, of which you made the pie-crust, into bread, and should put the stuff you used for shortening on a separate plate, on the table, and require them to spread it on the bread and eat them?

'They would turn up their noses at it very quick,' she answered.

Well, but they eat that same offensive stuff as really now that it is mixed with the flour and baked, as they would if it were eaten separately.

'That may be,' said she, 'but still they wont eat the pies unless the shortening is in them.'

I know that very well. Still their likes and dislikes do not alter the fact, that the hog's fat is hog's fat still, and that they eat it.

'But,' said she, 'baking changes its nature.'

Not a whit. There is perhaps no substance less affected by heating it, than fat, pure fat. You may boil it as long as you please, and it will evaporate but very little, and unless some other substance is introduced, it undergoes no chemical change, it is grease still. Besides, it is unquestionably true that instead of being *less* injurious when eaten mixed with the flour than if eaten separately and cold, on bread, it is far *more* so. You may vitiate the appetite so that it will crave the addition of the vilest substances with the food; but you cannot cheat the stomach. That detects the presence of every such thing which is forced upon it, however disguised by the arts of cookery.

'But what proof have you that it is more injurious when eaten mixed with the flour than when eaten separately?'

The testimony of the whole *enlightened* medical profession. Besides, you are aware that it is a well settled physiological principle that it is essential to the perfection of the digestive process that the *gastric juice* should be thoroughly mixed with the food in the stomach; the more perfectly it pervades it, the more perfectly will the food be digested. Now it will readily occur to every one, that the grease in food prevents the gastric juice from becoming mixed with the food as perfectly as it otherwise would be. You can very easily satisfy yourself by a simple experiment. Take a piece of plain bread and a piece of pastry or short-cake and dip both in water, and which will become soaked with the water soonest? You answer, the plain bread, without trying the experiment. I do not say that the resistance which the grease opposes to the permeation of the gastric juice is the *whole* of the mischief it works. But this alone is enough to condemn it. If you must eat grease, eat it cold and unmixed with the food, so that the saliva of the mouth and the gastric juice of the stomach may be mingled as much as possible with the food.

The good woman heard my argument without any reply, but although she could not deny the truth of the doctrine I maintain, she will continue to feed her boarders and her children with the filthy stuff. Not half of the evils of grease-eating and drinking have yet been told, and the worst of it is, it is almost perfectly idle to try to make the truth heard and followed in this community. One might as well preach against licentiousness to a Sodomite, as to denounce grease to an American, especially to a yankee. Go to a hotel table or to any fashionable table. Every plate of fish and flesh in addition to its own fat, is swimming in grease or flanked by turreens of gravy; every dish of vegetables is 'slushed,' except the potato, which sometimes comes on whole, after having, perhaps, been boiled with a piece of dead cow or hog, and thus spoiled for any use but for the soap-boiler—pies and puddings are saturated, and not satisfied with a profusion which makes every dish revolting to almost every animal but man and the hog, nearly every eater will make an additional requisition upon the butter plate. 'Mon Dieu!' exclaims some French traveller, speaking of America, (I have forgotten where I read the remark;) 'Mon Dieu! fifty religions, and only one sauce—*melted butter!*'

AN ANTIDISPEPTIC.

Statistics of Health.—It appears that in manhood when one person in one hundred dies annually, two are constantly sick. Calculating from this datum and the yearly mortality of England and Wales, the total number constantly disabled by sickness will be at least 600,000 persons; and if the same proportions be extended to Scotland and Ireland, 1,130,000. Some tables prepared from the facts of the Portsmouth dock yard, give these results:—In the year, one man in six is seriously hurt—two in five fall ill. Each man on an average has an attack of illness, either spontaneous, or caused by external injury, once in every two years; and at an average each disease lasts fourteen days. And from returns from other yards, it would seem that the sick time of the dock-yard laborers is seven to eight per cent. of their life time. The elaborate returns of the East India Company's laborers give a lower proportion.—*Med. Journ.*

It is good neither to eat *flesh*, nor to drink *wine*, nor *any thing* whereby thy brother stumbleth, or is offended, or is made weak.—*Paul's Epistle to the Rom'* xiv. 21.

THE ELEMENTARY GASES.

These four elementary substances, *Ogygen*, *Hydrogen*, *Azote* and *Carbon*, possess a very wonderful agency in nature; it is important, therefore, that the character and distinguishing properties of each should be well understood. These are given in the following concise definitions, which are not to be forgotten; viz.:

Oxygen—is one of the constituent principles of water; it is called *vital* or *respirable* air, and is essential both to the support of life and combustion.

This substance performs an important part in most of the changes which take place in the mineral, vegetable, and animal kingdoms.

Hydrogen—is one of the constituent principles of water; it is very inflammable, and was formerly called inflammable air. It is the lightest of all ponderable substances.

This is the substance generally used in filling air-balloons. It is readily obtained by the decomposition of water. Vegetables and animals also in a state of decay and putrefaction afford it, and it is evolved from various mines and volcanoes.

Azote—is that part of common air which is incapable of supporting life or combustion.

All combustible substances burn violently in pure oxygen gas, and if it was not diluted in the atmosphere by a large portion of azote, it would be impossible to extinguish any considerable fire when once lighted up, and something like the general conflagration of the world would immediately commence.

Azote exists abundantly in nature, forming the greater part of the atmosphere, and is one of the principal ingredients in animal substances.

Carbon—is the pure part of charcoal.

Carbon forms a large proportion of all vegetables; it exists also in animals, but its quantity is small.

Extermination of Quackery.—The last *Medical and Surgical Journal*, in a notice of the recent work of Dr. Sweetser, on Digestion, says:—'There is nothing to fear, however, from a free dissemination of the laws of life; the more men know of their own organization and the tenure of existence, the less disposed they will be to hazard the loss of that which is infinitely precious. An elementary knowledge of anatomy, physiology, and pathology, is a death-blow to quackery. Nothing would so suddenly and effectually exterminate the entire army of American quacks, as a series of volumes, in the manner of Dr. Sweetser's, widely circulated over our vast republic. Those pests of society—who like leeches draw directly upon the fountain of vitality—flee before the potent energies of a well-taught mind.'

Temperance.—The virtue of temperance in the use of food is too little practised by many, who, at the same time, would be shocked by the charge of excess in the use of strong drink. Yet intemperance in eating is, perhaps, no less mischievous than in drinking; and, when properly considered, equally disgraceful. Excess in the use of food begins at a point far short of that brutal intemperance which shocks every beholder; it begins soon after hunger is appeased, and the animal spirits are refreshed; it begins when the otherwise satiated appetite must be tempted by variety and by dainties; it begins when a person begins to feel oppression.

For my part, when I behold a fashionable table, set out in all its magnificence, I fancy that I see gouts and dropsies, fevers and lethargies, with other innumerable distempers, lying in ambuscade among the dishes. —*Addison.*

True Independence.—The man who has seven acres of fertile land, may always retire within the circle of his own productions; he may laugh at the monopolist; and receive his bread from the God of Heaven. No matter how much the seller asks for his niceties; no man is obliged to buy them. Let him store his fine flour if he please, until it is devoured by the rats. I thank heaven that I have two hands and an humble stomach; I can bear coarse food, and woollen; I can retire from flour to Indian meal, and from Indian meal to potatoes, or some humbler root.'—*Withington.*

Lectures on Life.—Mr. Graham is delivering a course of lectures on his favorite subjects, life, health, and longevity, at Clinton Hall, New York, which do not appear to be so well attended as the same kind were in this neighborhood. The complaint that the discourses are individually interminable, is no new excuse for not going to hear them. Mankind are not willing to be dragooned into long life.—*Med. Journ.*

It has been observed by medical writers, that the sober excess, in which we may indulge, by eating and drinking a little too much at every day's dinner, and every night's supper, more effectually undermines the health, than those more rare excesses by which others now and then break in upon a life of general sobriety.—*Hannah More.*

Mass. Gen. Hospital.—A meeting of the trustees was held on Friday, Oct. 13th. Dr. James Jackson resigned his place, as physician, and Dr. Enoch Hale, Jr. of Boston, was appointed to the office.

FACTS IN SUPPORT OF THEORY.

EXTRACT from a Lecture delivered at Boston, on the evening of Oct. 4th, 1837, before the American Physiological Society, by Mr. Amasa Walker.

The Science of Human Life, like all true science, is founded on *facts*, and is sustained by the Baconian method of inductive reasoning. Now these facts are not the result of mere scientific research, but are open to the common observation of all. Every individual whose mind has been in a measure enlightened on the subject has abundant opportunity to observe the various and interesting phenomena on which the science rests. Every peculiarity of age, sex, condition or locality, has its advantages for this purpose, and should not be unimproved. The aged, tottering down the declivity of life; the young, buoyant with vitality and spirits; the mother, as she watches over the cradle of infancy; the student, as he sits in his retirement and solitude; and the traveller, as he passes through different climes, and encounters the varieties of temperature and diet, all have their respective opportunities for noticing the diversified and various facts which are necessary to be ascertained and published, in order fully to convince the skeptical and unbelieving of the truth and utility of this important science. Men may and will oppose and ridicule our *theories*, but they cannot long hold out against *obvious facts;* hence it is the great duty and business of members of this society, to bring such facts before the public mind.

Among the various objects connected with our general subject, that of tracing the CAUSES OF DISEASE is, I conceive, one of the most interesting and useful. There is perhaps no topic of equal importance to mankind in regard to which they are so universally insensible and stupid, as this. The majority never inquire by what means they have been made sick; what law of nature they have violated, by which disease has come upon them; but they content themselves by thinking and saying that 'Providence afflicts them, that their sickness has been SENT!' Ignorance is the prolific mother of superstition, and the great destroyer of mankind for time and eternity. Let me not be understood as denying or doubting the superintendence of Divine Providence, for I rejoice in recognising and trusting in it; but while I do so, I fully believe that if I put my hand in the fire, I violate one of the laws of nature, and it will be burned; and that if I violate knowingly or ignorantly, in my diet, exercise, or general regimen, any *other* law of my physical nature I shall certainly suffer for it; and that it is little less than blasphemy to attribute to 'Providence' that which Providence, *without the interposition of a miracle*, could not prevent.

I believe then that it well becomes us to inquire into every case of illness or indisposition that comes within our observation, and if possible trace the minute circumstances attending it. By so doing we shall doubtless discover some fact that will corroborate the truths of our science, satisfy our own minds, and perhaps convince others.

Probably there is not a case of sickness which if we could fully know all the previous character, history and condition of the patient, might not be satisfactorily traced to the violation of some of the great laws of life. Every instance which can be so traced, becomes a useful lesson, and cannot fail to have an influence on those who observe it. Acting under this impression I have collected several facts in relation to sundry cases of illness that have recently occurred in one of the interior towns of this commonwealth, and take the liberty to present them to your consideration this evening. I will premise that these cases occurred in one of the most healthy towns in the county of Worcester, situated in a very elevated district of country.

A. B.* was an athletic boy, 4 years old. The boys in the neighborhood constructed a little oven out of doors, and baked green apples and ate them. This boy ate all he chose. For ten days previous to his attack he exhibited premonitory symptoms of disease, was exceedingly nervous and irritable, and though generally amiable became excessively querulous and ferocious. This was noticed by many persons that observed him, who thought his conduct quite unaccountable. The boy continued all this time to eat the unwholsome fruit. He was finally attacked with vomiting and purging, attended with extreme nervous excitement, and subsequent convulsions, then bloody discharges with tenesmus, great restlessness, could not be kept in bed except by opiates; lived about seven days, and died a skeleton, worn out by the disease.

On this case allow me to remark that the inquiry naturally suggests itself, might not this child's life, in all human probability, have been saved, if the parents had been well informed on physiological and pathological subjects? They were indeed amongst the most respectable and intelligent people in the town, but to this science they had never given their attention, and probably regarded it with indifference, perhaps, as is too common, with disgust. Now had they been aware of the nature and cause of disease, would they not have taken the alarm as soon as they discovered those symptoms of nervous irritation which presented themselves many days before the final and fatal attack? And as soon as such discovery was made, would they not have inquired strictly and anxiously for the cause; and having discovered it, as they might easily have done, would they not have placed the child under a careful surveillance, a rigid system of diet until the symptoms disappeared? Certainly. And yet the child is allowed to go on a week or ten days with these alarming indications upon him, until nature can no longer hold out, and gives way to convulsions and final dissolution.

Case 2d.—C. B. sister of the above mentioned, two years old. The day her little brother died she was found eating an apple, and it was ascertained had obtained several that day from different persons. The subsequent night she was attacked with extreme heat and nervous irritation, almost amounting to convulsions, ejected undigested apples and food, had seven or eight discharges during the night by aid of injections, the stomach being too irritable to retain any medicine. Blood attended the discharges occasionally, but the case terminated favorably in three days by the use of active remedies, warm bath, &c.

Here I remark again that while one child was sinking under a fatal disease, another for want of attention was running the same fearful hazard of destruction; and all this owing, not to wilful neglect, for no parents could be more anxious or affectionate, but to *ignorance* of what every parent ought to know and feel.

Case 3d. A child of D. E. was well on 13th, and died on 16th September. Was a healthy and robust child, but had indulged, ad libitum, in eating unripe fruit. Was attacked with vomiting mucus, with frequent discharges of undigested apples and food. Second day convulsions ensued, and he rapidly sunk into the arms of death on the third day; convulsed to the last.

Had this child been watched with an intelligent parental solicitude, and allowed only ripe fruit, and that in limited quantities until its effects were seen to be salutary, would it have probably died?

* Names and even the true initials are withheld for obvious reasons.

Case 4th. A child of F. G. two years old, perfectly well on the 15th September. Eat hearty at noon of boiled victuals, went to the neighbors and eat sweet apples. Next day about 12, was attacked with convulsions, rolling of the head, and other symptoms of congestion of the brain, with green, slimy, bloody discharges. Eyes never closed after convulsions commenced; so intensely was the nervous system affected that a fly on the eyeball of the child would excite no emotion. Excessive thirst and the irritation in the bowels produced inflammation of the mucus membrane, but not of the muscular coat. Died in four days.

Remark.—The mucus membrane of a child two years old is but imperfectly formed, in fact, is little more than a soft pulp, that may be scraped off from the muscular coat, and of course is exceedingly delicate and susceptible of irritation and consequent destruction. How cautious would all parents be in regard to allowing their children to eat any crude substance, if they were fully aware of the peculiarly sensitive character of this vitally important membrane, through which all articles taken into the stomach must pass, and how careful must they be not to administer any harsh medicines to such little sufferers!

Case 5th.—A child of Doct. H. I. the most robust, healthy and muscular child in the town. The mother perfectly healthy; weighed thirty pounds at twelve months old—flesh hard—after weaning, took nothing but new milk with stale bread; was washed thoroughly every morning, and throve well under this regimen. One day a visiter in the family undertook to feed the child, and gave it potato and butter, articles it had never before taken, also sweet cake and butter—that very day the child began to have a diarrhœa with bloody discharges.—This went on increasing until they became dark-colored, mixed with brown cerum and blood, almost gangrene. This was arrested by large doses of calomel, once in four hours, accompanied with injections, and terminated favorably, but greatly to the injury of the child's general health and vigor.

Remark.—This is a very interesting case and plainly shows how dangerous to an infant is any considerable variation from its accustomed and wholesome diet. That this illness was wholly to be ascribed to the cause stated, neither the father of the child, who is an intelligent physician, nor any other person qualified to judge, can for a moment doubt.

Case 6th.—A child of Col. J. six years old. Parents being absent on a journey, it went out, ate freely of pears; next day was attacked with convulsions. Recovery ensued after a long, protracted, and dangerous sickness of 4 weeks. Extremely emaciated. 12 grains of calomel administered once in four hours for two weeks.

Case 7th.—Miss K. L. aged 19 years, the most muscular woman in the place, of great vigor of constitution and 'the picture of health.' She ate green apples freely and afterwards complained that 'her head ached as if it would split open,' yet went out again and ate more apples! was soon after attacked with great heat and symptoms of irritation on the bowels, which resulted in a fever, and this proved fatal in ten or twelve days. Her physician has no doubt that unripe fruit was the sole cause.

Remark.—This is a striking instance of a direct and palpable violation of the laws of health, so great that no one can suppose the person had any knowledge at all in regard to the subject. Had she possessed such knowledge as every person in the common walks of life might easily attain, would she have disregarded the obvious indications of distressed and abused nature? When a violent head-ache came suddenly on would she not have inquired immediately into the *cause*? Would she not at once have suspected the *apples*, and instead of going out again and with the most frightful temerity eating more of the vicious fruit, would she not at once have used all her exertions to be rid of those she had already taken? Is not this a plain case of destruction caused solely by ignorance of that subject which thousands ridicule, but few understand?

Case 8th.—Mr. M. N. aged 18 years, in the same house as the last named. General health good, ate *thirteen* apples at one time; became unwell immediately and three days subsequently was taken with vomiting and threw up these apples entirely undigested and unchanged. Fever set in and continued, all the attempts to arrest the progress of the disease were unavailing and it proved fatal in about two weeks.

Remark.—This case is such as to require no comment, yet shocking as it is to humanity, it is one that finds its parallel often, in all parts of the country, at this season of the year. Death always commences his ravages with the coming of the fruit; would it be so, if men understood themselves, the powers and functions of their bodies, the science of human life, as well as they ought, as well as they might?

Case 9th.—A child of Mr. O. P. about 10 months old, at the breast. The mother lived in an abstemious and proper manner and the child possessed uncommon vitality. Taking a journey from home the mother changed her diet and ate fruit and vegetables freely. The child was shortly attacked; discharges green and slimy, mixed with blood. The child was treated with mucillaginous diet and the mother with cathartics to remove morbid secretions, and in about 10 days the child was perfectly restored to health. No medicine was given the child, arrow root was principally taken.

Case 10.—A boy, notorious for eating fruit, eat all he could get at, was attacked with symptoms of fever. When the physician was called, the tongue was dry, parched and cracked, thirst excessive, with great restlessness. This disease yielded to active remedies in about three weeks, but his constitution is greatly impaired. A marked case of fruit eating.

Case 11.—Mr. Q. R. aged about 33. Very temperate and regular liver upon vegetable food. One day being called from home he took his dinner an hour earlier than usual. He thinks this produced a little disturbance in his system, but in the course of his ride he tasted of several apples and ate some. Arriving at home in the edge of the evening he ate a quart of bread and milk, double his usual quantity, went to his place of business, and was employed in his counting room to a late hour. Went home, felt cold and chilly, could not get warm, retired to bed, passed a bad night, and in the morning felt very unwell, mouth tasted very bad, and from the sensations he felt in his stomach, he believed himself about to have a violent attack of cholera morbus, such attacks having been frequent with him before he commenced his regular mode of living. Being too faint to stand, he took to his bed, and remained on his back for six or eight hours, when he rose and took some gentle exercise, and after *fasting* 36 hours was completely free from disease. He believes fruit and irregularities the cause and abstinence was the remedy.

Case 12.—Not a case of *disease* precisely. Mrs. R. S. with two small children has lived in the neighborhood of these cases, has maintained a very rigid and correct mode of living, abstaining almost wholly from fruit herself, and allowing her eldest child but very little, the other being a nursing infant, and all of them have passed the season thus far without a symptom of the prevailing epidemic.

I will make a few observations suggested by a review of the facts I have stated.

And in the first place I would say that there was nothing that could justly occasion any alarm, nothing contagious or infectious. There doubtless was a general predisposing state of the system which rendered persons more liable to attack, but the immediate and certain cause, in most cases, was the injudicious or immoderate use of *fruit*.

But it may be reasonably asked, was not fruit, from some cause or other, more unhealthy than usual? Doubtless, owing probably to the coldness of the season, the fruit, in this particular town, at least, did not fairly and generally get ripe. There was not probably sufficient heat from the sun to mature it fully, and hence it almost always did injury, more or less. This fact was noticed by several individuals, and if it be established, is an interesting one, and should lead to inquiry and investigation.

Particular vegetables, we know, are poisonous some seasons. Rye has been found occasionally to be very destructive to human life, and so doubtless are many other articles of food, and man and beast suffer the consequences. This fact suggests the caution that we should be ever vigilant and watchful in regard to all those productions on which we subsist; and if we have reason to suspect any one of them to be pernicious in its effects, should give the alarm to others, that all may abstain from the use of it. Fruit, I mean domestic fruit, is a great destroyer of human life. None can dispute this. Every year furnishes evidence that it is so; but *why* is it? Is it necessarily so? Probably it is not; yet the havoc which we yearly witness by the use, or, if you please, the abuse of it, is at least enough to excite inquiry.

It is owing, no doubt, to several causes, that fruit of various kinds produces so many mischiefs.

One, and the most common, perhaps, is that it is taken in an unripe state.

Another, that it is used when in a process of decomposition or decay.

Another, that it is taken in immoderate quantities.

And still another, that it is taken at improper times, when the stomach is overloaded with other food?

Were it taken in reasonable quantities, and at our regular meals, or at proper intervals between, it would seldom, *in healthy persons*, occasion any inconvenience; yet I am well persuaded, from my own experience and observation, that some individuals, especially amongst those who have abandoned the use of flesh and stimulants, do themselves great injury by the use of fruit. Being cut off from many indulgences common to others, they fly to this article and use it greatly to their detriment. Laying down the principle beforehand, and in the abstract it is true, that fruit is wholesome food, they use it without a close observation of its effects. They consequently suffer; things do not go right with them; but they do not permit themselves to question whether the eating of fruit be the cause.

Where the digestive organs have been for twenty or thirty years impaired, fruit may and often does become an almost indigestible substance, and creates great difficulty and distress. This we ought all to realize, and while I would not desire to depreciate this excellent article of diet, I would caution all to receive it with at least so much suspicion as to observe carefully its effects upon the system; and if found pernicious, to discard it as they would any other deleterious substance.

LECTURES ON POPULAR PHYSIOLOGY.—The 5th Lecture in this course will be given on Tuesday (this) evening, at Amory Hall, by Dr. Jerome V. C. Smith. Subject, the Anatomy and Physiology of the Heart. The Lecture to commence at 7 o'clock.

All those who become subscribers for the Second Volume of the Journal, commencing the first of January, 1838, will be furnished with the remaining numbers of this Vol. gratis. The next volume of this work will be issued, once in two weeks, on a whole sheet, in order to save country subscribers one half the postage they now have to pay.

Any person receiving this number of the Journal, who is not a subscriber, is invited to become such, or pass the paper to some neighbor who may wish to take the work. The Second Vol. of this Journal will contain 400 pages octavo, and the terms will be the same, $1,50 a volume, or if paid in advance, $1,00.

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The Council of the AM. PHYSIOLOGICAL SOCIETY meet tomorrow evening at the House of Mr. Perry, Fayette Court.

Dr. REED, No. 155, Washington Street, having recovered from his recent severe scald is ready to attend to his patients as usual.

Graham Boarding House.—At 23, Brattle Street, Boston. Transient company furnished with board and lodging, or their meals without lodging. Tickets for single dinners for sale at this office. Regular hours for meals are 7, 12, and 5 o'clock, during the short days of winter.

The established Lectures on Popular Physiology. These Lectures are now well established and comparatively well attended. Still there are tickets on hand which if sold would prolong the course. The Society propose to continue the Lectures as long as the proceeds from the sale of the tickets will go.

PHYSIOLOGICAL SOCIETY'S PROVISION STORE,

Fayette Court, near 401 Washington Street, Boston.

NATHANIEL PERRY, AGENT.

THE provisions in this store are mostly vegetable, and such as are best calculated to preserve health and longevity, and are selected with great care from the best the market affords, and consists of wheat, indian corn, rye and oat meal, or otherwise prepared for hominy, mush, gruel, &c. Also rice, peas, beans, tappioca, sago, sugars and molasses, garden vegetables, the best of fruits, milk and butter milk, a good supply of coarse wheaten or dyspepsia bread and crackers from Mr. Shipley's bakery, &c.

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